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10/523,507	01/31/2005	Hui Lin	1981052PCT	1313

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EXAMINER

NGUYEN, TANH Q

ART UNIT PAPER NUMBER

2182

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/523,507

Applicant(s)

LIN, HUI

Examiner

Tanh Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. It is noted that this application appears to claim subject matter disclosed in prior PCT application number PCT/CN02/00550, filed August 8, 2002. A reference to the prior application must be inserted as the first sentence(s) of the specification of this application or in an application data sheet (37 CFR 1.76), if applicant intends to rely on the filing date of the prior application under 35 U.S.C. 119(e), 120, 121, or 365(c). See 37 CFR 1.78(a). For benefit claims under 35 U.S.C. 120, 121, or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of all nonprovisional applications. If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference to the prior application must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e).

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120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

### ***Claim Objections***

2. Claims 1-8 are objected to because of the following informalities:

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"storage device" in line 1 of claim 1 should be replaced with --a storage device--.

"storage audio files" in line 5 of claim 1 should be replaced with --storage of audio files--.

"PCB" in line 6 and line 8 of claim 1 should be replaced with --printed circuit board (PCB)--.

"D/A converter" in line 15 of claim 1 should be replaced with --digital/analog (D/A) converter--.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "a receiver circuit corresponding to the functional buttons". It is not clear how a receiver circuit can correspond to the functional buttons.

Claim 1 recites "a processing unit, which receives commands form the functional buttons". The limitation is a bit confusing and it appears that applicant intends to claim "a processing unit, which receives commands **from** the functional buttons".

Claim 1 recites "a decoding unit, which receives audio files from the processing unit to decode". The limitation is a bit confusing and it appears that applicant intends to claim "a decoding unit, which receives audio files from the processing unit and decodes

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the received audio files”.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheah et al. (US 7,076,432).

7. As per claim 1, Cheah teaches an audio player [10, FIG. 1] which can exchange a storage device [32, FIG. 1] to play audio files comprising:

a main body [FIG. 2A], which comprises a set of functional buttons [40-46, FIG. 2A] on the surface thereof for operation, a socket, and a slot opening on the surface [38, FIG. 2B];

a power supply [24, FIG. 1], which is installed in the main body as a power source;

an exchangeable hard drive [32, FIG. 1; col. 3, lines 53-56; col. 3, lines 60-64], which comprises an interface [33-34, FIG. 1] for download and storage of audio files from a computer [col. 4, lines 6-11], a drive PCB (for mounting the drive circuitry), and a set of pins extended from the drive PCB on the surface thereof corresponding to the slot of the main body (the pins being necessary to interface with the audio player); and

a main PCB [10, FIG. 1], which is installed inside the main body and comprises

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an interface [33-34, FIG. 1] extended through the slot to the surface of the main body to contact the pins of the exchangeable hard drive and communicate with the drive PCB, a receiver circuit [26, 28, FIG. 1] corresponding to the functional buttons [col. 4, lines 17-20], and further comprises:

- a processing unit [22, FIG. 1], which receives commands from the functional buttons via the receiver circuit, and accesses audio files in the exchangeable hard drive [col. 4, lines 17-23];

- a decoding unit [12, FIG. 1], which receives audio files from the processing unit and decodes the received audio files [col. 4, lines 45-54];

- a D/A converter [14, FIG. 1], which converts received decoded audio files from digital signals to analog signals; and

- an amplifier [16, FIG. 1], which amplifies received analog signals and transfers to an output unit [a headphone socket for headphone 18, FIG. 1].

Cheah does not specifically disclose the processing unit accessing the audio files in the exchangeable hard drive through a buffer. Since it was known in the art to use one or more buffers to facilitate data transfer to and from I/O devices, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a buffer in Cheah's invention in order to facilitate the access of the audio files in the exchangeable hard drive by the processing unit.

Cheah does not disclose the main PCB comprising a set of gold fingers to contact the pins of the exchangeable hard drive. Since it was known in the art to use gold contacts (i.e. golden fingers) to enhance data transfer reliability, it would have been

obvious to one of ordinary skill in the art at the time the invention was made for the main PCB to comprise a set golden fingers in order to enhance data transfer reliability.

Cheah therefore discloses the invention except for the audio player having a USB socket for accepting the USB plug of an exchangeable hard drive such as a USB thumb drive - instead of an audio player having a compact flash (CF) socket for accepting a CF plug of an exchangeable hard drive.

Since applicant indicates that "any kind of technologies of hard drives, like flash memory, hard disc, etc. for example, can be utilized as a storage device of the present invention" [[0027], lines 6-9], applicant essentially suggests that the type of exchangeable hard drive is not significant, hence the type of socket of the audio player is also not significant. Since Cheah teaches an audio player with a CF socket and an exchangeable hard drive with a CF plug, Cheah teaches an obvious variant of an audio player with USB socket and an exchangeable hard drive with a USB plug.

Furthermore, it is noted that there is no patentability merely in modifying a device that works with one protocol (CF) into another device that works with another protocol (USB) when the operation and the functionality of the device are the same - as the devices are no more than obvious variants of one another.

8. As per claims 2-4, 8, Cheah teaches an output device [18, FIG. 1] to connect to a headphone socket (connection of headphone to amplifier) to play audio;

the main PCB comprising a power switch [42, FIG. 2A], which is set on the surface of the main body and connects the power supply for operating power on/off;

the functional buttons comprising a play button, a stop button, and two directional



buttons [46, 42, 43, 44, FIG. 2A].

9. As per claim 5, Cheah teaches the power supply comprising a battery [35, FIG. 1], and it would have been obvious for the main body to comprise a battery cover since it was known in the art for the main body of a device to include a battery cover to prevent the battery from falling off.

10. As per claim 6, since it was known in the art for an audio players to comprise a strap hole for a strap to allow for carrying the audio player with the strap, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a strap hole in the main body in order to carry the audio player with the strap.

11. As per claim 7, since it was known in the art for an exchangeable hard drive to comprise an LED to indicate status of operation, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a LED on the exchangeable hard drive to indicate the status of operation.

12. Claims 1-8 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Cheah et al. (US 7,076,432) in view of Deng et al. (US 6,829,672).

13. As per claim 1, Cheah therefore discloses the invention except for the audio player having a USB socket for accepting the USB plug of an exchangeable hard drive such as a USB thumb drive - instead of an audio player having a compact flash (CF) socket for accepting a CF plug of an exchangeable hard drive [see rejection of claim 1 above].

In essence, the exchangeable hard drive in Cheah does not allow for a connection to a PC or other similar device that do not have a CF socket, or for a

connection to a PC or other similar device with a USB port **without a USB/CF adapter** - to load audio files onto the exchangeable hard drive.

Deng teaches an exchangeable hard drive [FIG. 2] with a USB plug [231, FIG. 2] for interfacing with a data processing system through a USB cable [col. 7, lines 1-37]. Note that the label 23 for USB plug should be 231 to correspond to the description in the disclosure. Furthermore, since it was known in the art to use a USB cable to connect the USB plug of an exchangeable hard drive to a rear USB socket of a data processing system (i.e. when a front USB socket is not available) to establish communications between the data processing device and the exchangeable hard drive, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the USB plug of the exchangeable hard drive into an available front socket in order to establish communications between the data processing device and the exchangeable hard drive.

Deng further suggests using his exchangeable hard drive with a USB plug as an external storage device for Pentium II and compatible computers, handheld device and portable data processing system [col. 11, lines 9-29] because of advantages such as plug-and-play, high capacity, high speed,...[col. 11, lines 33-47] and because USB has become new industry standard for personal computer and USB is widely available [col. 1, line 58-col. 2, line 1].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an exchangeable hard drive with a USB plug for storing audio files from a personal computer, as is suggested by Deng, because USB is widely

available and has become an industry standard for personal computer (hence a PC more likely to have a USB socket than a CF socket), because of the advantages stated in col. 11, lines 33-47, and because a USB/CF adapter would not be needed for the storage of the audio files from the PC onto the exchangeable hard drive with a USB plug.

Furthermore, since Deng suggests using his exchangeable hard drive with a USB plug as external storage device for portable processing system (see above), and since the audio player is a portable processing system, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Cheah's audio player into a portable processing system with a USB socket because such modification would allow the audio player to access audio files on an exchangeable hard drive with a USB plug (without the need of a USB/CF adapter), because USB is widely available and has become an industry standard for personal computer and portable processing system (hence the exchangeable USB plug more likely to be used on the PC or the portable processing system), and because of the advantages stated in col. 11, lines 33-47.

14. As per claims 2-8, see the rejections of claims 2-8 over Cheah above.


### ***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Q. Nguyen whose telephone number is 571-272-4154. The examiner can normally be reached on M-F 9:30AM-7:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
September 17, 2006

TQN  
September 17, 2006